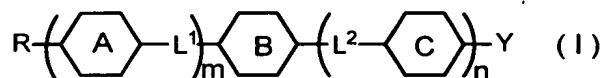
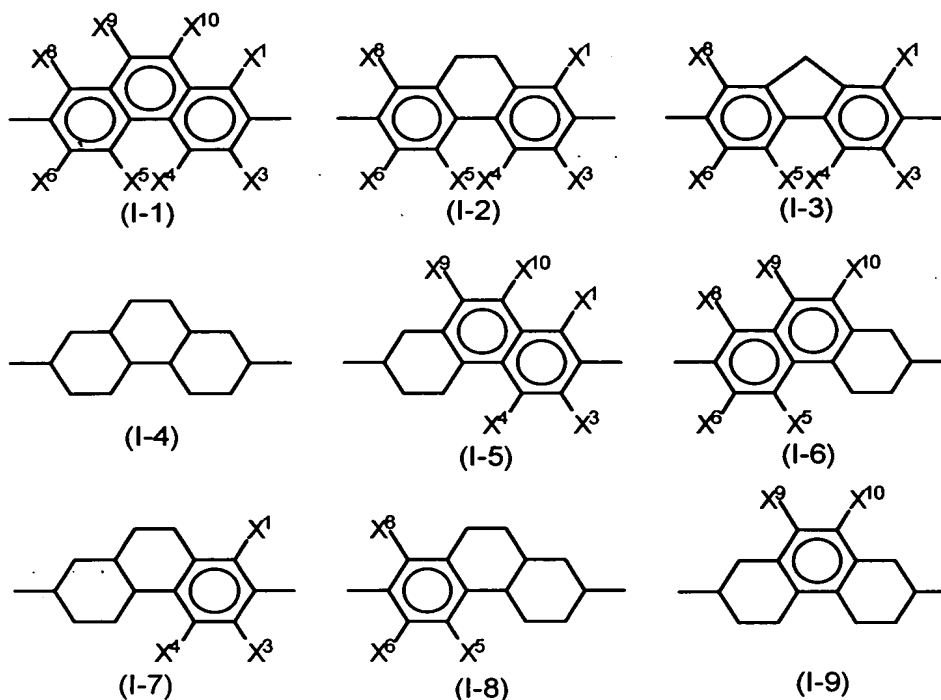


## CLAIMS

1. A fused ring compound represented by a general formula  
(I)



(wherein, R represents an alkyl group or alkoxyl group of 1 to 16 carbon atoms, an alkenyl group of 2 to 16 carbon atoms, an alkenyloxy group of 3 to 16 carbon atoms, or an alkyl group of 1 to 12 carbon atoms substituted with an alkoxyl group of 1 to 10 carbon atoms, and said groups may be substituted with a halogen, and in cases in which an asymmetric carbon arises due to substitution or branching, may be either one of optically active and a racemic mixture; ring A and ring C each represent, independently, any one of a trans-1,4-cyclohexylene group in which one CH<sub>2</sub> structure within said group or two or more non-adjacent CH<sub>2</sub> structures within said group may be replaced with -O- and/or -S-, a 1,4-phenylene group in which one CH structure within said group or two or more non-adjacent CH structures within said group may be replaced with -N=, a 1,4-cyclohexenylene group, a 1,4-bicyclo(2.2.2)octylene group, a piperidine-1,4-diyl group, a naphthalene-2,6-diyl group, a trans-decahydronaphthalene-trans-2,6-diyl group, and a 1,2,3,4-tetrahydronaphthalene-2,6-diyl group, and said groups may be substituted with either one of a cyano group and a halogen; ring B represents any one of general formulas (I-1) to (I-9)



(wherein,  $X^1$ ,  $X^3$ ,  $X^4$ ,  $X^5$ ,  $X^6$ ,  $X^8$ ,  $X^9$  and  $X^{10}$  each represent, independently, any one of a hydrogen atom, a chlorine atom and a fluorine atom, provided that conditions described below are satisfied:

a. In (I-1) and (I-2), in a case in which at least one of  $X^3$ ,  $X^4$ ,  $X^5$  and  $X^6$  represents a fluorine atom, and a remainder represent hydrogen atoms, then at least one of  $X^1$ ,  $X^8$ ,  $X^9$  and  $X^{10}$  represents either one of a chlorine atom and a fluorine atom,

b. In (I-1) and (I-2), in a case in which at least one of  $X^1$ ,  $X^8$ ,  $X^9$  and  $X^{10}$  represents a fluorine atom, and a remainder represent hydrogen atoms, then at least one of  $X^3$ ,  $X^4$ ,  $X^5$  and  $X^6$  represents either one of a chlorine atom and a fluorine atom, and

c. In (I-3) to (I-9), hydrogen atoms within a ring may be

replaced with a cyano group or a halogen);

$L^1$  and  $L^2$  each represent, independently, any one of  $-\text{CH}_2\text{CH}_2-$ ,  $-\text{C}\equiv\text{C}-$ ,  $-(\text{CH}_2)_4-$ ,  $-\text{CF}=\text{CF}-$ ,  $-\text{OCH}_2-$ ,  $-\text{CH}_2\text{O}-$ ,  $-\text{OCF}_2-$ ,  $-\text{CF}_2\text{O}-$ ,  $-\text{CO}_2-$ ,  $-\text{OCO}-$ ,  $-\text{CH}=\text{N}-\text{N}=\text{CH}-$ ,  $-\text{CH}=\text{CH}-\text{CH}_2-\text{CH}_2-$ ,  $-\text{CH}_2-\text{CH}_2-\text{CH}=\text{CH}-$  and a

single bond;  $m$  and  $n$  each represent, independently, any one of 0, 1 and 2, although  $m+n \leq 2$  and in a case in which either one of  $m$  and  $n$  is 2, then at least one of  $L^1$  and  $L^2$ , when present, represents a single bond;  $Y$  represents any one of a hydrogen atom, a fluorine atom, a chlorine atom, a trifluoromethoxy group, a difluoromethoxy group, a trifluoromethyl group, a 3,3,3-trifluoroethoxy group, a cyano group, a straight chain alkyl group of 1 to 16 carbon atoms, a straight chain alkenyl group of 2 to 16 carbon atoms, a straight chain alkyloxy group of 1 to 12 carbon atoms, and a straight chain alkenyloxy group of 2 to 16 carbon atoms, provided that cases described below are excluded:

i. a case in which ring B represents (I-2),  $m$  and  $n$  represent 0,  $R$  represents an alkyl group and  $Y$  represents an alkyl group,

ii. a case in which ring B represents (I-3),  $m$  and  $n$  represent 0,  $R$  represents an alkyl group and  $Y$  represents an alkoxy group,

iii. a case in which ring B represents (I-4),  $m$  and  $n$  represent 0,  $R$  represents an alkyl group and  $Y$  represents either one of an alkyl group and a cyano group,

iv. a case in which ring B represents (I-8),  $m$  and  $n$  represent 0,  $R$  represents an alkyl group and  $Y$  represents an alkyl

group,

v. a case in which ring B represents (I-4), m represents 0 and n represents 1, ring C represents a 1,4-phenylene group, L<sup>2</sup> represents -CO<sub>2</sub>-, R represents an alkyl group and Y represents

any one of an alkyl group, an alkoxy group and a cyano group,

vi. a case in which ring B represents (I-4), m represents 0 and n represents 1, ring C represents a 1,4-phenylene group, L<sup>2</sup> represents -OCO-, R represents an alkyl group and Y represents an alkoxy group,

vii. a case in which ring B represents (I-2), m represents 0 and n represents 1, ring C represents a 1,4-cyclohexylene group,  $L^2$  represents  $-CO_2-$ , R represents an alkyl group and Y represents an alkyl group,

viii. a case in which ring B represents (I-1), and  $X^9$  and  $X^{10}$  represent fluorine atoms, and

ix. a case in which ring B represents (I-3), and  $X^3$ ,  $X^4$ ,  $X^5$  and  $X^6$  simultaneously represent fluorine atoms, and applying similarly to compounds equivalent to those above described using combinations of abbreviations).

2. A compound according to claim 1, wherein ring A and ring C each represent, independently, a 1,4-phenylene group or a trans-1,4-cyclohexylene group which may be substituted with a fluorine atom.

3. A compound according to claim 1, wherein L<sup>1</sup> and L<sup>2</sup> each represent, independently, any one of -OCO-, -CO<sub>2</sub>-, -CH<sub>2</sub>CH<sub>2</sub>- and

a single bond.

4. A compound according to claim 1, wherein m represents 0, and n represents 0 or 1.

5

5. A compound according to claim 1, wherein  $L^1$  and  $L^2$  each represent a single bond.

6. A compound according to claim 1, wherein ring B represents (I-3) or (I-4) which may be substituted with a halogen.

7. A compound according to claim 1, wherein ring B represents (I-1) or (I-2).

15

8. A compound according to claim 1, wherein ring B represents (I-1), and  $X^9$  and  $X^{10}$  both represent hydrogen atoms.

9. A compound according to claim 1, wherein ring A and ring C each represent, independently, a 1,4-phenylene group or a trans-1,4-cyclohexylene group which may be substituted with a fluorine atom, and ring B represents any one of (I-1), (I-2), (I-3) and (I-4) which may be substituted with a halogen.

10. A compound according to claim 1, wherein ring A and ring C each represent, independently, a 1,4-phenylene group or a trans-1,4-cyclohexylene group which may be substituted with a

201020 380001

fluorine atom, ring B represents any one of (I-1), (I-2), (I-3) and (I-4) which may be substituted with a halogen, and  $L^1$  and  $L^2$  each represent a single bond.

5 11. A compound according to claim 1, wherein ring A and ring C each represent, independently, a 1,4-phenylene group or a trans-1,4-cyclohexylene group which may be substituted with a fluorine atom, ring B represents any one of (I-1), (I-2), (I-3) and (I-4) which may be substituted with a halogen, m  
10 represents 0 and n represents 1, and  $L^2$  represents a single bond.

12. A compound according to claim 1, wherein ring A and ring C each represent, independently, a 1,4-phenylene group or a  
15 trans-1,4-cyclohexylene group which may be substituted with a fluorine atom, ring B represents any one of (I-1), (I-2), (I-3) and (I-4) which may be substituted with a halogen, m represents 0 and n represents 1, and  $L^2$  represents a single bond, and in a case in which ring B represents (I-1) which may  
20 be substituted with a halogen,  $X^9$  and  $X^{10}$  both represent hydrogen atoms.

13. A compound according to any one of claims 1 through 12, wherein R represents either one of a straight chain alkyl  
25 group of 1 to 12 carbon atoms and a straight chain alkenyl group of 2 to 12 carbon atoms, and Y represents any one of a fluorine atom, a chlorine atom, a trifluoromethoxy group, a

40030185-020102

trifluoromethyl group, a difluoromethoxy group, a 3,3,3-trifluoroethoxy group and a cyano group.

14. A liquid crystal composition incorporating at least one compound according to any one of claims 1 through 13.

15. A liquid crystal display element utilizing a liquid crystal composition according to claim 14.

16. An active matrix driven liquid crystal display element utilizing a liquid crystal composition according to claim 14.

17. A supertwisted nematic liquid crystal display element utilizing a liquid crystal composition according to claim 14.